



A view from above: Use of satellite imagery to enhance our understanding of potential impacts of climate change on human health in the Arctic

Author(s): Maynard NG, Conway GA
Year: 2007
Journal: Alaska Medicine. 49 (2 Suppl): 38-43

Abstract:

OBJECTIVE: Provide an overview and examples of some of the remote sensing technologies presently or potentially available, which could be used to address environmental health problems in the Arctic. **STUDY DESIGN:** The vulnerability of Arctic populations to health impacts from environmental, weather, and climate-related factors underscores the need for increased applications of technologies such as remote sensing, Geographic Information Systems (GIS), and global positioning systems (GPS) for empowering local health officials and decision-makers to better predict environment-related health problems, decrease vulnerabilities, take preventative measures, and improve community response actions as well as increase community health literacy. **METHODS/RESULTS:** These increased capabilities for monitoring, risk mapping, information sharing, communications, and surveillance of environmental parameters are powerful tools for addressing such environmentally-related health problems as thermal stress; extreme weather; contaminant transport and deposition into oceans, atmosphere, and ice; air and water quality; built environment impacts; ultraviolet radiation (UV); and infectious and vector-borne diseases. For example, systems are now in place, which can observe ocean parameters, providing information on algal blooms, pollutants and pathogens as well as storm assessments and sea level rise. **CONCLUSION:** Space-based systems in place can contribute valuable information through monitoring the processes of long-range transport of pollutants to the Arctic, where accumulation in animals and plants can occur. It is well-known that biomagnification up the food chain and ultimate consumption as traditional foods by indigenous peoples have resulted in some of the highest exposures in the world to certain contaminants.

Source: Ask your librarian to help locate this item.

Resource Description

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Air Pollution, Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Glacier/Snow Melt, Meteorological Factors, Precipitation, Sea Level Rise, Solar Radiation, Temperature,

Climate Change and Human Health Literature Portal

Other Exposure

Extreme Weather Event: Flooding, Hurricanes/Cyclones

Food/Water Quality: Biotoxin/Algal Bloom, Chemical, Pathogen, Other Water Quality Issue

Water Quality (other): Nutrients; pH; Water temperature

Food/Water Security: Food Access/Distribution, Nutritional Quality

Temperature: Extreme Cold, Fluctuations

Geographic Feature: 

resource focuses on specific type of geography

Arctic, Ocean/Coastal

Geographic Location: 

resource focuses on specific location

Global or Unspecified

Health Impact: 

specification of health effect or disease related to climate change exposure

Cancer, Cardiovascular Effect, Developmental Effect, Infectious Disease, Injury, Morbidity/Mortality, Neurological Effect

Developmental Effect: Cognitive/Neurological

Infectious Disease: Foodborne/Waterborne Disease, General Infectious Disease, Vectorborne Disease

Foodborne/Waterborne Disease: Cholera, General Foodborne/Waterborne Disease

Vectorborne Disease: Mosquito-borne Disease

Mosquito-borne Disease: Dengue, Malaria, West Nile Virus

Resource Type: 

format or standard characteristic of resource

Research Article, Research Article

Timescale: 

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: 

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content